

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 2, 8, and 11; cancel claims 3-7 and 12-17; and add new claims 18-21, as indicated below.

1. (Currently Amended) A method for improving the germline transmission efficiency of up to 49.7% of avian chicken primordial germ cells (PGCs), which comprises the steps of: (a) isolating primordial germ cells (PGCs) from a an avian chicken embryonic gonad; and (b) culturing said PGCs *in vitro* for at least 5 10 days; and (c) injecting said cultured PGCs into a recipient embryo, wherein said PGCs that are *in vitro* cultured in step (b) express a stage specific embryonic antigen-1 (SSEA-1), said injecting of the cultured PGCs into the recipient embryo is carried out by injecting cultured the PGCs into the dorsal aorta of the recipient embryo, and said culturing of the PGCs *in vitro* is conducted on a gonadal stroma feeder cell layer.

2. (Currently Amended) A method for preparing a an avian chicken germline chimera exhibiting the an improved germline transmission efficiency of up to 49.7%, which comprises the steps of: (a) isolating primordial germ cells (PGCs) from a an avian chicken embryonic gonad; (b) culturing said PGCs *in vitro* for at least 5 10 days; (c) injecting said cultured PGCs into a recipient embryo; and (d) incubating and hatching an egg containing said recipient embryo, whereby the avian chicken germline chimera is prepared, wherein said PGCs that are *in vitro* cultured in step (b) express a stage specific embryonic antigen-1 (SSEA-1), said injecting of the cultured PGCs into the recipient embryo is carried out by injecting the cultured PGCs into the dorsal aorta of the recipient embryo, and said culturing of the PGCs *in vitro* is conducted on a gonadal stroma feeder cell layer.

3-7. (Cancelled).

8. (Currently Amended) The method according to ~~any one of claims 1-3~~ claim 1 or 2, wherein said ~~in-vitro culture of PGCs~~ culturing of the PGCs *in vitro* is conducted in a medium containing a cell growth factor and a differentiation inhibitory factor.

9. (Original) The method according to claim 8, wherein said cell growth factor is selected from the group consisting of stem cell factor, fibroblast growth factor, interleukin-11, insulin-like growth factor and their combination.

10. (Original) The method according to claim 8, wherein said differentiation inhibitory factor is leukemia inhibitory factor.

11. (Currently Amended) The method according to ~~any one of claims 1-3~~ claim 1 or 2, wherein said ~~in-vitro culture of PGCs~~ culturing of the PGCs *in vitro* is conducted in a medium containing a serum selected from the group consisting of avian serum, mammalian serum, and their combination.

12-17. (Cancelled).

18. (New) The method of claim 1 or 2, wherein the source of the chicken PGCs is a Korean Ogol Chicken (KOC) embryo gonad.

19. (New) The method of claim 1 or 2, wherein the recipient embryo is a White Leghorn embryo.

20. (New) The method of claim 1 or 2, wherein the source of the chicken PGCs is a Korean Ogol Chicken (KOC) embryo gonad and the source of the chicken embryo is a White Leghorn embryo.

21. (New) The method of claim 1, wherein the separation of PGCs is carried out in the absence of Ficoll gradient separation.